

What is claimed is:

1. A method of visually inspecting a substrate of a printing press, the method comprising:

5 providing an image recording device including a monochromatic sensor configured to record images printed on a white substrate, the images including yellow ink; and

illuminating the substrate with white light and blue light;

wherein illuminating the white substrate with blue light highlights the yellow ink against the white substrate.

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2. The method of claim 1, wherein providing the image recording device including a monochromatic sensor includes providing a CMOS image recording device.

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3. The method of claim 1, wherein illuminating the substrate with white light and blue light includes illuminating the substrate with white and blue LEDs.

4. A method of visually inspecting a substrate of a printing press, the method comprising:

providing an image recording device including a monochromatic sensor configured to record images printed on a substrate; and

5 illuminating the substrate with light of varying colors to identify different ink colored portions of the images printed with respect to the substrate.

5. The method of claim 4, wherein illuminating the substrate includes illumination using LEDs.

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6. The method of claim 5, wherein the illumination using LEDs includes illuminating the substrate with blue light and white light.

7. A visual inspection system configured to be in optical communication with a substrate of a printing press, said visual inspection system comprising:

5 a monochromatic image recording device configured to record images printed by a printing press onto a white substrate, the printed images including yellow ink;

a plurality of LEDs adjacent the recording device and positioned to illuminate the white substrate;

10 wherein a portion of the LEDs are white, and a portion of the LEDs are blue, and wherein illuminating the white substrate with the blue LEDs highlights the yellow ink against the white substrate.

8. The visual inspection system of claim 7, wherein the blue LEDs include cyan LEDs.

15 9. The visual inspection system of claim 7, wherein the recording device is a CMOS recording device.

10. A visual inspection system configured to be in optical communication with a substrate of a printing press, said visual inspection system comprising:

a CMOS image recording device configured to record images printed on a substrate; and

5 a plurality of high intensity LEDs adjacent the recording device and positioned to illuminate the substrate;

wherein a portion of the LEDs are white, and a portion of the LEDs are a color other than white.

10 11. The visual inspection system of claim 10, wherein the recording device includes a lens and wherein the LEDs are arranged in a rectangular orientation surrounding the lens.

12. The visual inspection system of claim 11, wherein the recording device  
15 further includes a reflector coupled behind the LEDs.

13. The visual inspection system of claim 10, wherein the images printed on the substrate include yellow ink, and wherein the plurality of LEDs includes blue LEDs to highlight the yellow ink against the substrate.

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14. A visual inspection system configured to be in optical communication with the substrate of a printing press, said visual inspection system comprising:

a monochromatic image recording device configured to record images on a substrate;

5 a plurality of LEDs of at least two different colors arranged adjacent the recording device; and

a control system coupled to the recording device, wherein the control system uses the recorded image to control operation of the printing press.

10 15. The visual inspection system of claim 14, wherein the LEDs include blue and white LEDs.

16. The visual inspection system of claim 15, wherein the blue LEDs include cyan LEDs.

15 17. The visual inspection system of claim 14, wherein the LEDs are of the high intensity type.

18. The visual inspection system of claim 14, wherein the control system is a cutoff control system.

19. The visual inspection system of claim 14, wherein the control system is a color control system.

20 20. The visual inspection system of claim 14, wherein the control system is a registration control system.

21. The visual inspection system of claim 14, wherein the control system is a web inspection control system.

22. The visual inspection system of claim 14, wherein the recording device is fixed relative to the printing press.

23. The visual inspection system of claim 14, wherein the recording device is a CMOS recording device.

5           24. The visual inspection system of claim 14, wherein the recording device includes a reflector coupled behind the LEDs.

25. A visual inspection system configured to be in optical communication with a substrate of a printing press, said visual inspection system comprising:

a monochromatic image recording device configured to record images printed by a printing press onto a substrate, the printed images including inks of various colors; and

illuminators of at least two different colors adjacent the recording device and chosen to help highlight the various ink colors with respect to the substrate.

26. The visual inspection system of claim 25, wherein the illuminators include a plurality of LEDs.

27. The visual inspection system of claim 25, wherein the illuminators include a plurality of high intensity LEDs.

28. The visual inspection system of claim 27, wherein the illuminators include blue LEDs.

29. The visual inspection system of claim 27, wherein the illuminators include cyan LEDs.

30. An illumination arrangement for a monochromatic image recording device on a printing press, said illumination arrangement adapted to illuminate a substrate of the printing press and comprising:

5 a plurality of LEDs arranged in a configuration surrounding the monochromatic recording device, the plurality of LEDs including LEDs that emit light of different colors to identify and highlight different ink colored portions of a printed image with respect to a substrate. ✓

10 31. The illumination arrangement of claim 30, wherein the plurality of LEDs includes LEDs that emit light having a blue wavelength to highlight yellow portions of the printed image against the substrate.

15 32. The illumination arrangement of claim 30, wherein the plurality of LEDs include high intensity LEDs.

33. The illumination arrangement of claim 30, further comprising a reflector coupled to the monochromatic recording device behind the LEDs to reflect light generated by the LEDs onto the substrate.